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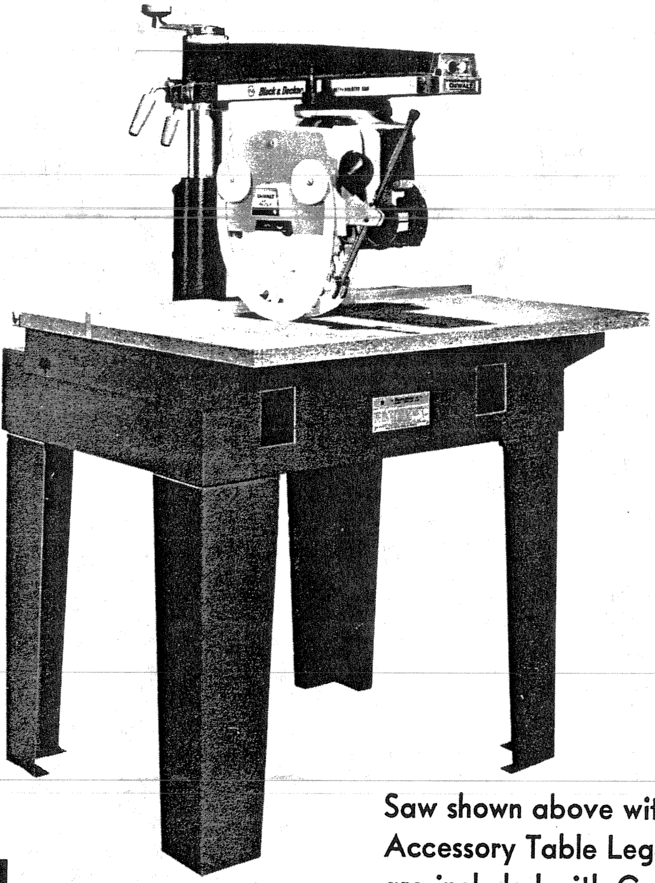
DEWALT®

instruction maintenance and parts



Saw shown above with Accessory Table Legs which are included with Cat. Nos. 7791/3432 & 3436 only.

SAFETY SEAL pti
power tool institute

B&D®

Black & Decker.

This booklet is provided for your convenience in the use and care of your new DeWalt Saw. These instructions include operation, safety precautions, preventive maintenance, maintenance and other pertinent data to assist you in assuring long life and dependable service from your saw.

12" RADIAL ARM SAW

Nos. 7790/3431–7791/3432–3436

TYPE 3

Bulletin No. 8217

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CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with both the upper and lower guards in place.

MODEL NO.		MOTOR SIZE		VOLTAGE
7790/3431	Type 3	1½ HP	1 ph	120–208/240 VOLT 60 CY.
7790-02/3431-02	Type 3	1½ HP	1 ph	120/230–250 VOLT 50 CY.
7790-03/3431-03	Type 3	1½ HP	1 ph	120/230–250 VOLT 50 CY.
7790-08/3431-08	Type 3	1½ HP	1 ph	120/240 VOLT 50/60 CY.
7791/3432	Type 3	1½ HP	1 ph	120–208/240 VOLT 60 CY.
3436	Type 3	2 HP	3 ph	208–240/480 VOLT 60 CY.
3436-09	Type 3	2 HP	3 ph	550-600 VOLT 60 CY.
3436-02	Type 3	2 HP	3 ph	208–220/440 VOLT 50/60 CY.
3436-06 & 10	Type 3	2 HP	3 ph	220/380 VOLT 50 CY.

SINGLE PHASE POWER CONNECTION & GROUNDING

Your tool has a grounding system to protect you from electric shock if some damage should occur to the wiring of the tool. This system utilizes the tool's approved 3-conductor power cord and 3-prong grounding type attachment plug, which should be used with the proper grounding type receptacle, in accordance with the National Electric Code, Canadian National Code, and Underwriters' Laboratories specifications.

The green colored conductor in the cord is the grounding wire. It is connected to the metal frame of the unit inside the housing and to the longest prong of the attachment plug. Never connect the green wire to a "live" terminal. Never remove the third (longest) prong from the plug.

208-240 Volt Operation—the saw is supplied with a plug like Figure A. It should be used in the proper standard, matching 3-wire grounding receptacle.

120 Volt Operation—See page 20 for 120 Volt Connection. The plug supplied, must be replaced with the plug shown in Figure B. It should be used in the proper standard, matching 3-wire grounding receptacle.

The use of a separate 20 amp circuit is recommended.

Fig. A

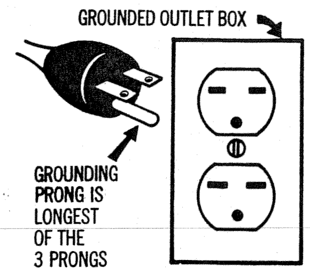
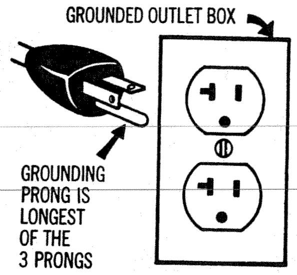


Fig. B



THREE PHASE POWER CONNECTION & GROUNDING

Three-phase machines must be wired to the power supply in accordance with the National Electrical Code and any local codes which pertain. Three-phase motors must be checked for proper direction of rotation (clockwise when facing arbor end) with the arbor nut and collars removed from the motor shaft. If the motor shaft turns counterclockwise, the power supply connections are incorrect. To correct, interchange any two power supply lines (L1, L2, or L3 shown on pages 18 and 19).

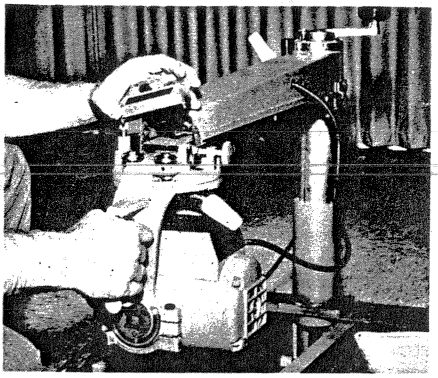
UNPACKING AND SET-UP INSTRUCTIONS

Your DeWalt has been completely assembled and tested at the factory and then partially disassembled for packaging and shipment.

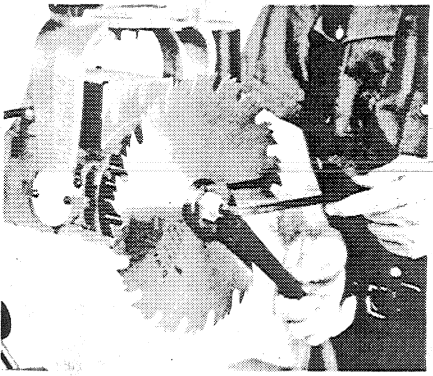
We suggest the following procedure:

1. Turn the Elevating Handle at top of column counterclockwise a few turns to release the motor box and remove it from under the arm. (Do not discard the metal plate or guard found under motor box.)
2. Remove the Arm End Cap but do not disconnect the leads to the switch. Insert rollerhead yoke and motor assembly into the arm, being careful not to damage the rip pointer on right side, and roll to extreme back of arm against column. Lock the entire assembly with the rip lock. Replace arm end cap.
3. Swing arm and position at right angle to guide fence at 0° on miter scale. Locate miter latch in column slot. Securely lock arm with arm clamp handle.
4. Place machine on its back (column on floor) and attach legs with three (3) bolts to each leg. Now place machine in an upright position on its legs. To prevent forward creeping of the saw carriage, tilt the saw backward by shimming under the front of table frame or front legs if so equipped.

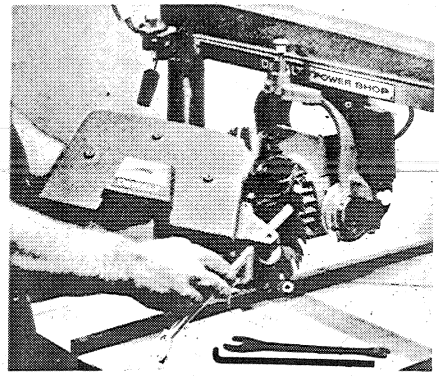
So that your new DeWalt may be placed in operation just as soon as it is assembled, all electrical connections have been made for you to operate your machine on 220 to 240 volts power supply. For change to 120 volt or on three phase models for change to 440 volt refer to connection diagram on the motor name plate, and pages 18 to 20 of this manual.



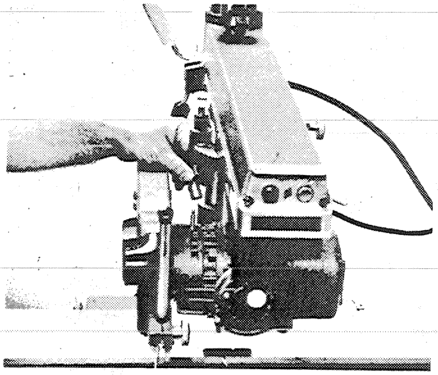
1. Wipe tracks with clean dry cloth or carbon tetrachloride. Insert motor assembly in arm. Be careful not to damage rip pointer on right side of assembly.



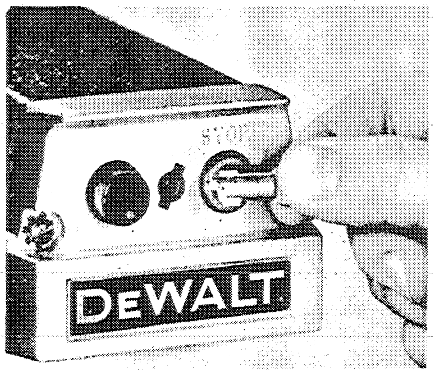
2. Clean saw blade with clean dry cloth. Place saw blade between collars (recessed portion against blade). Tighten arbor nut using both wrenches.



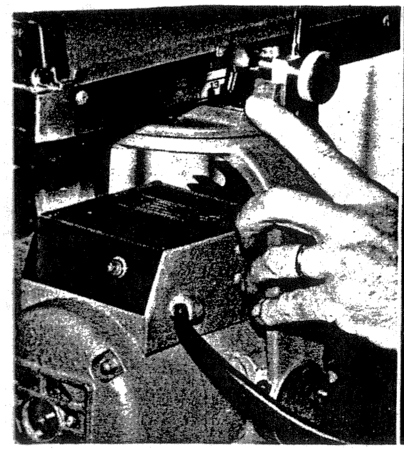
3. Assemble guard kick-back and elbow. See page 17 for details of assembly of upper and lower guards.



4. Enclose blade with guard and lock in place with wing nut.



5. Insert key, unlock push button switch and you are ready for a lifetime of woodworking pleasure.



igure 1

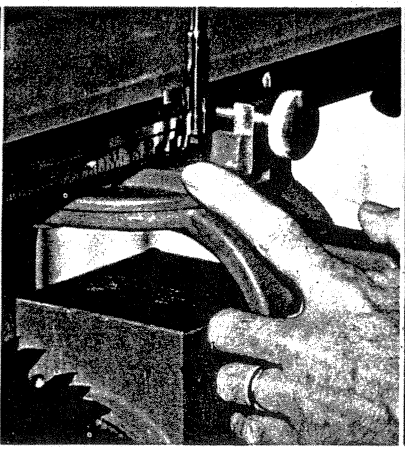


Figure 2

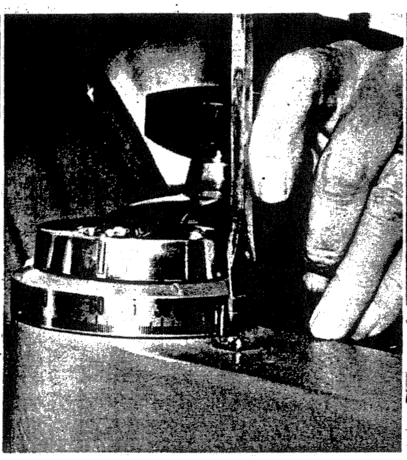


Figure 3

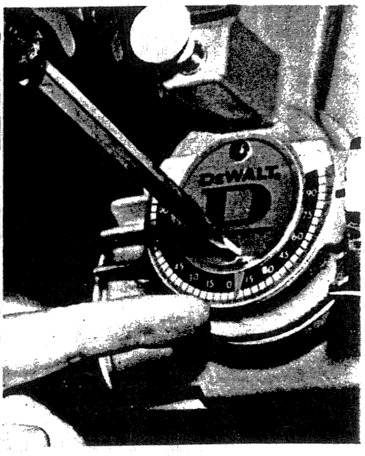


Figure 4

ADJUSTMENTS AND ALIGNMENTS

Adjustment of Scales

Rip Scale

The Rip Scale is located on the right side of the Radial Arm. When the motor is positioned with motor arbor toward the column it is called "in rip" position, and material should be fed from right to left. When the motor arbor is positioned toward the operator it is called "out rip" and material is fed from left to right. When "in ripping" width dimensions are located on the top of the scale and when "out ripping" on the bottom of the scale by use of the reference pointers. The pointers are adjustable and must be readjusted only when gauge (thickness) of blade is changed.

To adjust:

"In rip" (figure 1)

(a) Place the motor in "in rip" and move the motor on the arm until the saw blade just touches the guide fence.

(b) Loosen two screws on pointer base and move pointer until edge aligns with 0 on the top scale. Tighten back screw.

"Out rip" (figure 2)

(a) Place a board of known width against the guide strip, position motor in "out rip" position and move the motor until the blade just touches the material.

(b) Loosen front screw only and move bottom pointer until the edge aligns with dimension on the lower scale of the known width of board. Tighten screw.

Miter Scale (figure 3)

The miter scale is located at the top rear of the arm. When the arm is positioned for straight cross-cut the pointer should be at 0 on the scale. To adjust loosen the screw holding the pointer, adjust, and tighten.

Bevel Scale (figure 4)

The bevel scale is located at the front of the motor. When the motor is positioned for vertical cutting pointer should be at 0 on the scale. To adjust loosen the lower screw, move the pointer to 0 and tighten.

ALIGNMENT PROCEDURE

All DeWalt machines are thoroughly tested, inspected, and accurately adjusted before leaving the factory. Rough handling in shipment can, at times, affect adjustments. Because of this we recommend alignment check before operation. You will also find that because of overload and various excessive stresses and strains realignment and minor adjustments may periodically become necessary to maintain complete accuracy.

Provisions are made for complete adjustment of all positions so that your DeWalt Machine can be kept accurate for its entire life. A description of each of these adjustments follows and should be performed in the sequence listed.

1. CHECK TABLE TOP AND GUIDE FENCE

The table top assembly and guide strip are checked for straightness with a master straight edge before leaving the factory. As all wood products must "breathe" and are affected by various humidity conditions, a slight change from factory conditions may sometimes be found. Straightness of top and Guide Strip, with Clamp Screws (at rear of table) tight, should be checked with a square or straight edge. Correction can be made only by sanding. A slight variation from perfect straightness of table top will not normally affect the average woodworking requirements. Do not use a level except as a straight edge. (This check is for straightness, not levelness with floor.)

NOTE: You may desire to place a hardboard or plywood protective top on the section of table top in front of the guide fence until you are more familiar with the operation of your machine. This procedure will eliminate excessive cutting into permanent top and, like the guide fence, is easily replaced when necessary. Be sure you countersink finishing nails and place them so as not to be in line with cutting tools.

2. ADJUSTMENT OF YOKE CLAMP HANDLE
(figure 5)

The purpose of this handle is to provide a friction lock between the upper face of the yoke and the bottom face of the rollerhead. It should also eliminate any play between these two parts. In operating position the yoke clamp handle is pushed back from

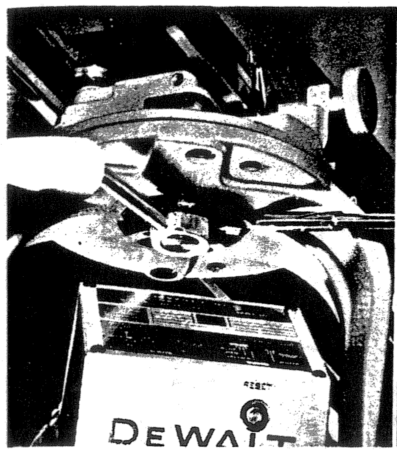


Figure 5

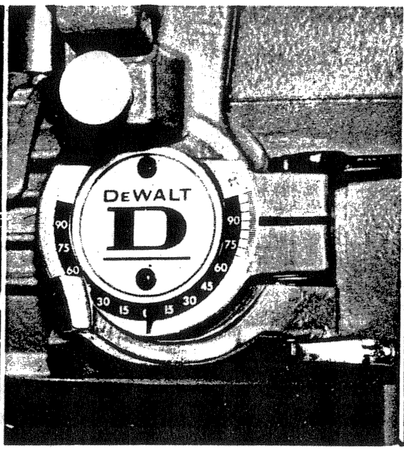


Figure 6

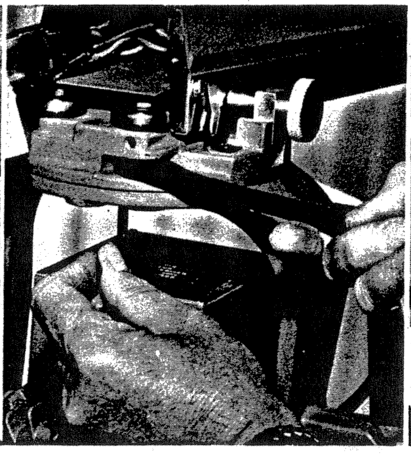


Figure 7

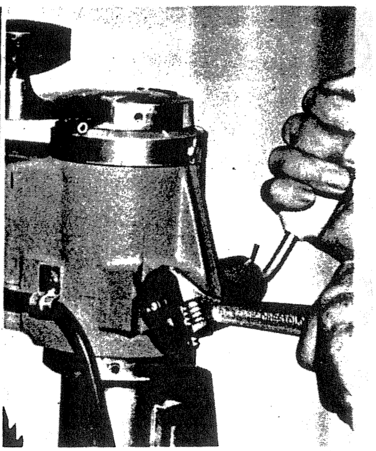


Figure 8

the hand grip of the yoke. If, at any time, it is possible to move this handle so that it strikes the rear leg of the yoke, it is not in proper adjustment. Its proper position for machine operation is approximately 90° or less to the hand grip of the yoke.

To readjust:

(a) Pull yoke clamp handle forward to release friction locking action.

(b) Insert screw driver between the yoke and the notched clamp adjustor. Flex the adjustor downward just enough to pass over the lug stop on the yoke.

(c) Rotate clamp adjustor as necessary (to tighten, counter-clockwise; to loosen, clockwise). Be sure the notch in the adjustor is positioned properly over the yoke lug stop at final setting.

NOTE: If difficulty is encountered in making the above adjustment we suggest that you remove the arm end cap and slide the entire motor, yoke and rollerhead assemblies from the arm. This will provide access to the king bolt and by turning this with a screw driver it will assist in the above adjustment procedure.

3. ADJUSTING BEVEL CLAMP HANDLE

(figure 6)

The purpose of the Bevel Clamp Handle is to hold the motor rigidly at any angle. This is accomplished by the cam action of the top of the clamp tightening the split portion of the yoke around dial plate. In locked position it should be flush with and under bevel scale and hold motor rigidly at the angle desired.

To adjust:

(a) Loosen Bevel Clamp Handle by pulling left side away from motor.

(b) While holding bottom head of Cap Screw with a wrench tighten or loosen the top jam nut as necessary.

4. ADJUSTING ROLLERHEAD BEARINGS TO ARM TRACKS (figure 7)

The rollerhead is suspended by four special tolerance, grease-packed, double shield ball bearings. These bearings are mounted on two straight bearing shafts and two eccentric bearing shafts. In proper adjustment the top and bottom radii of all four bearings should be in contact with arm tracks for their entire length and head should roll freely.

To adjust:

(a) Remove arm end plate.

(b) Bring motor, yoke and rollerhead assemblies to the end of arm.

(c) Loosen two set screws located at the right side and front and rear of the rollerhead as they lock the eccentric bearing shafts in place.

(d) Release yoke clamp handle by pulling forward. Disengage locating pin by lifting plastic knob and swivel motor 90 degrees to "in rip" position.

(e) Loosen hex jam nuts on right side, front and rear.

(f) Insert socket wrench in recess at bottom of shafts and turn bearing shaft until the ball bearing touches the arm track on both top and bottom radii. Repeat for both eccentric shafts.

CAUTION: Do not tighten too much. Bearings should only be sufficiently tightened so that they roll and do not slide. Be sure tracks are clean.

(b) While holding each eccentric shaft in adjustable position with the set screw wrench tighten jam nuts and relock set screws. Replace arm end cap.

5. ADJUSTING ARM CLAMP HANDLE

(figure 8)

The Arm Clamp Handle holds the arm in desired position for cross-cut or miter work. When tightened it should be in upright (vertical) position. If, when tightened, this handle goes beyond this position, it should be adjusted as follows:

(a) Remove Cotter Pin by tapping from bottom to top.

(b) Tighten left-hand nut as necessary.

(c) Replace cotter pin.

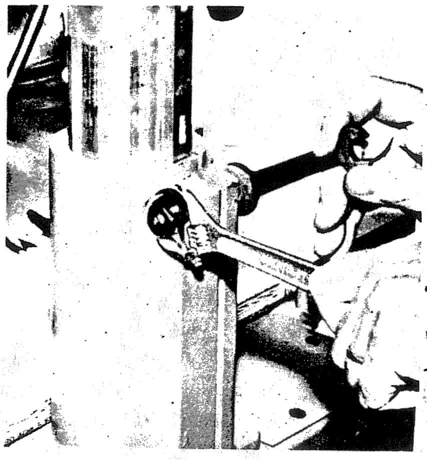


Figure 9

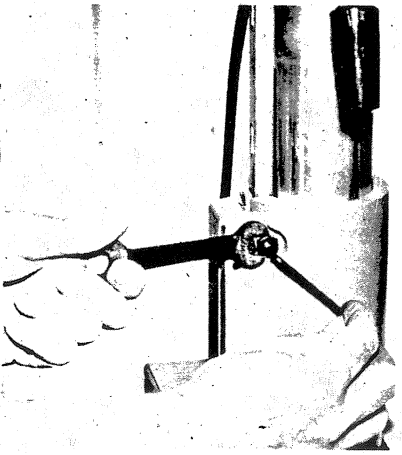


Figure 10

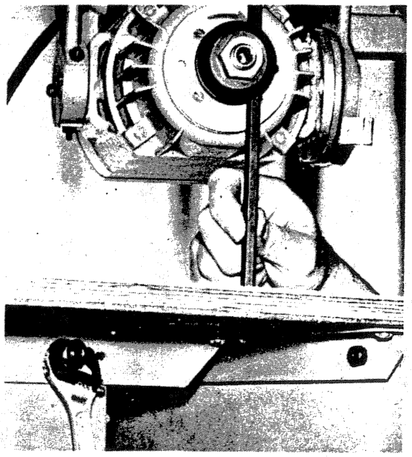


Figure 11

6. ADJUSTING BASE TO COLUMN (figures 9 and 10)

If, after the Arm Clamp Handle is tightened, you have side motion at the end of the arm and this is caused by the Column rotating in the base it indicates adjustment of the base or column key gib is necessary.

To adjust: (Face rear of machine)

(a) Loosen all base hardware above table frame level (5 pieces). There are: two pinch bolts with lock nuts (top and bottom), two set screws with lock nuts (top and bottom), and one set screw without lock nut (top only).

(b) Elevate and depress column. If base is too tight around the column causing binding tighten the small set screw (the one without lock nut at top of base) until column moves freely. If base is not too tight leave this set screw loose.

(c) Tighten the base pinch bolts (top and bottom) by turning the bolt heads on right side until the base fits snugly around the column diameter but column elevates and depresses freely. Lock with nuts on left side.

(d) To prevent side motion of the arm (rotation of column) tighten the top and bottom set screws so that the column key gib (brass plate) is forced against the column key. Be careful you do not tighten to the point of binding with resulting hindrance to the elevating. Lock by tightening jam nuts.

(e) Tighten small set screw (the one without lock nut) at top of base if you have not already done so in "b" above.

7. ADJUSTING TABLE TOP PARALLEL WITH ARM (figure 11)

The table top surface must be parallel with the horizontal plane of the arm tracks.

To check this alignment:

(a) Insert the arbor nut wrench or a piece of steel about 10″ long between the saw arbor collars.

(b) Elevate or depress saw that when swinging arbor wrench on the motor arbor the bottom of it just touches the table top.

(c) Locate the highest spot on the table over adjusting cleats by moving the arm on the column and the rollerhead along the arm tracks.

(d) If the bottom of the arbor wrench in vertical position does not "just touch" the table top at all positions over the cleats adjustment is necessary.

To readjust Main Table:

(a) Loosen locking nuts holding center cleat to table frame.

(b) Loosen all locking nuts at both sides of the main table frame except the one holding the highest point of the table top as determined above.

(c) Elevate the low sections to the same elevation as the highest and (1) tighten all locking nuts at both sides of the table frame, (2) tighten locking nuts at center cleat.

8. ADJUSTING BLADE PERPENDICULAR TO WORK TOP (figures 12 and 13)

With the arm in cross-cut position, all latches engaged and all clamp handles locked place a steel square with one angle on the table top parallel to guide strip and the other angle against the flat of the saw blade (place in saw blade gullets and not against teeth because of tooth set). If blade is not flat against square, adjust as follows:

(a) Remove name plate by removing two screws.

(b) Loosen two outside socket head screws.

(c) Loosen bevel clamp handle.

(d) Tilt motor until blade is flat against the square and again lock (very firmly) socket head screws. Replace name plate.

NOTE: In some cases it will be found necessary to also loosen center cap screw in order to adjust motor.

9. ADJUSTING CROSS CUT TRAVEL WITH GUIDE FENCE (figures 14 and 15)

With the miter latch engaged and arm clamp handle locked, place a wide board (1″ x 12″ if available) against the guide strip. Cross-cut this board with a set tooth blade. Check cut with a steel square. If cut is not square, the arm is out of alignment with the guide fence.

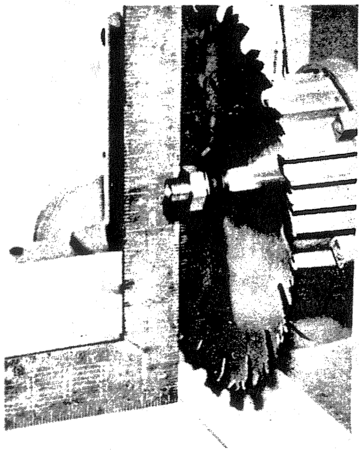


Figure 12

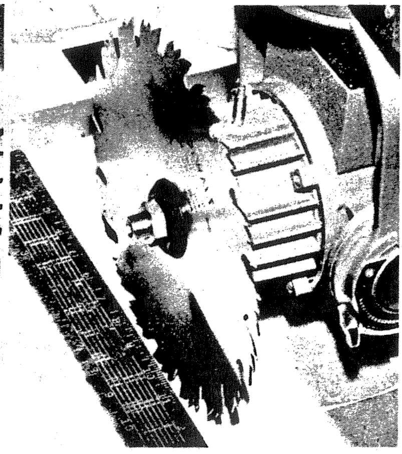


Figure 14

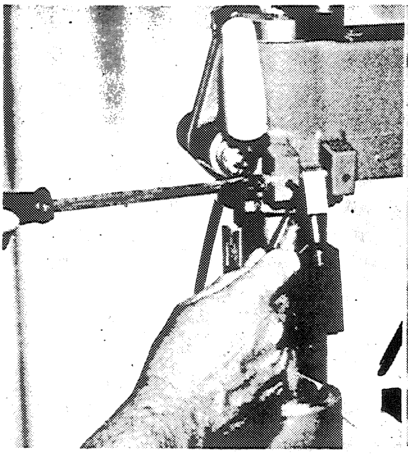


Figure 15

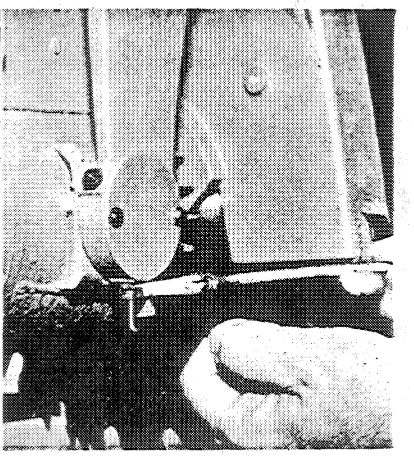


Figure 16

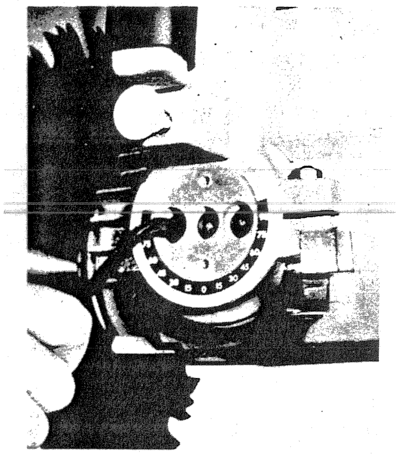


Figure 13

To readjust:

(a) Loosen arm clamp handle.

(b) Loosen two set screws.

(c) Lay steel square on table top with one angle against guide fence and the other at angle of 0° crosscut.

(d) Move saw carriage and blade forward along steel square to determine which way arm must be adjusted.

(e) If saw blade moves toward square as it comes forward, disengage miter latch. With screw driver loosen rear adjusting screw, re-engage miter latch. Check and repeat if necessary.

(f) If saw blade moves away from square as it comes forward, disengage miter latch. Loosen front adjusting screw and tighten rear adjusting screw, re-engage miter latch. Check and repeat if necessary.

(g) When saw travel is parallel to square for entire length, lock adjusting screws in place by retightening set screws.

10. ADJUSTING CROSS-CUT TRAVEL PARALLEL TO ARM TRACKS (figure 16)

Both the leading and trailing teeth of the saw blade should travel in the same plane parallel to the arm tracks. To check, place a board 4″ x 1″ or larger against the right side of the guide fence. With the machine in 0° cross-cut position and all locks and latches engaged, end trim this stock by allowing only the front teeth of the blade to clear the stock and the rear teeth remaining in the cut. Now remove the stock by sliding to the right before returning the cutting head to the back of the arm. Examine the cut edge of the stock. If blade marks of the rear teeth are prominent on the cut stock the rear teeth are not exactly following the front teeth and adjustment is necessary. (The arcs of the rear teeth start at the bottom front of the stock and travel up and back.) Repeat this same operation with the stock against the left side of the guide fence. To adjust when marks are on stock cut on right side:

(a) Disengage bevel clamp handle.
(b) Loosen right and left lock nuts at rear of yoke.
(c) Loosen left set screw about 1/6 turn and tighten right set screw.
(d) Retighten lock nuts and bevel clamp handle.
(e) Recheck as above by cutting.

To adjust when marks are on stock cut on left side:

(a) Disengage bevel clamp handle.
(b) Loosen right and left lock nuts.
(c) Loosen right set screw about 1/6 turn and tighten left set screw.
(d) Retighten lock nuts and bevel clamp handle.
(e) Recheck as above by cutting.

After left and right adjustments have been made, tilt the motor to 45° bevel cross-cut position and again make cuts on 2″ x 4″ stock as was done in cross-cut position. If tooth marks again appear the motor is too high or low in the rear of the yoke.

To adjust when marks appear on bottom side of cut (left-hand piece of stock):

(a) Disengage bevel clamp handle.
(b) Loosen all lock nuts.
(c) Loosen right set screws about 1/6 turn and tighten bottom set screw.
(d) Retighten lock nuts and bevel clamp handle and recheck as above by cutting.

To adjust when marks appear on upper side of cut:

(a) Disengage bevel clamp handle.
(b) Loosen all lock nuts.
(c) Loosen bottom set screw about 1/6 turn and tighten right set screws.
(d) Retighten lock nuts and bevel clamp handle and recheck as above by cutting.

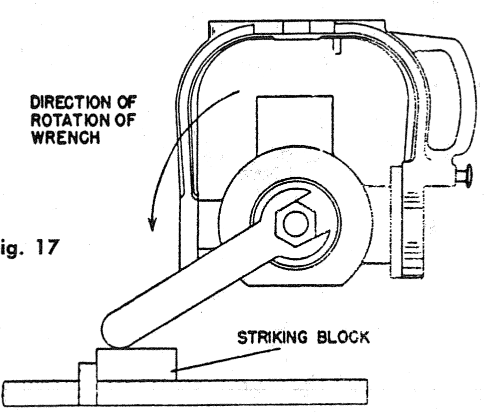


Fig. 17

SAFETY RULES FOR STATIONARY POWER TOOLS

1. Keep Guards in Place and in working order.
2. Remove Adjusting Keys and Wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. Keep Work Area Clean. Cluttered areas and benches invite accidents.
4. Avoid Dangerous Environment. Don't use power tools in damp or wet locations. Keep work area well lit.
5. Keep Children Away. All visitors should be kept safe distance from work area.
6. Make Workshop Kid Proof—with padlocks, master switches, or by removing starter keys.
7. Don't Force Tool. It will do the job better and safer at the rate for which it was designed.
8. Use Right Tool. Don't force tool or attachment to do a job it was not designed for.
9. Wear Proper Apparel. No loose clothing or jewelry to get caught in moving parts. Rubber-soled footwear is recommended for best footing.
10. Use Safety Glasses. Also use face or dust mask if cutting operation is dusty.
11. Don't Overreach. Keep proper footing and balance at all times.
12. Maintain Tools With Care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
13. Disconnect Tools before servicing; when changing accessories such as blades, bits, cutters, etc.
14. Avoid Accidental Starting. Make sure switch is in "Off" position before plugging in.

IMPORTANT!

Three-phase machines must be wired to the power supply in accordance with the National Electrical Code and any local codes which pertain. Three-phase motors must be checked for proper direction of rotation (clockwise when facing arbor end) with the arbor nut and collars removed from the motor shaft. If the motor shaft turns counterclockwise, the power supply connections are incorrect. To correct, interchange any two power supply lines (L1, L2 or L3).

DIRECTIONS FOR REMOVING ARBOR NUT

(Fig. 17)

1. Fit 5⁄16″ Allen Wrench into front end of motor shaft. (This is a holding wrench only.)
2. Fit large wrench on arbor nut as nearly parallel to first wrench as possible.
3. While holding first wrench stationary with right hand, use downward pressure of left hand on second wrench and nut will loosen.

In cases of extreme tightness use the following method:

1. Lock rollerhead to arm with rip lock assembly.
2. Fit wrench to arbor nut only.
3. Place striking block of wood as shown in figure 17.
4. While holding wrench on arbor nut strike end of wrench on wood block in counter-clockwise direction as shown in figure at left.

(Caution—Never wedge anything against fan.)

MAINTENANCE & OPERATION

1. DO—Connect to power supply with not less than number 12 size wire.
2. DO—Protect line with at least a 20 ampere *time delay* fuse.
3. DO—Be sure blade rotates clockwise when facing arbor.
4. DO—Be sure all clamp handles are tight before starting any operation. Push back to tighten. Pull to loosen.
5. DO—Be sure blade and arbor collars are clean and recessed side of collars are against blade. Tighten arbor nut securely, using both wrenches provided.
6. DO—Keep saw blade sharp and properly set.
7. DO—Use anti-kickback attachment on guard.
8. DO—Keep arm tracks and bearing surfaces clean and dry. Periodic cleaning with dry cleaner is recommended.
9. DO—Periodically recheck alignment.
10. DO—Remove blade but not arbor collars and nut when using rear shaft.
11. DO—Keep motor air slots clean and free of chips.

1. DON'T—Attempt to operate on anything but designated voltage.
2. DON'T—Operate unless all clamp handles are tight.
3. DON'T—Use blades of large diameter than recommended.
4. DON'T—Remove anti-kickback from guard.
5. DON'T—Rip from wrong direction—observe caution tag on guard.
6. DON'T—Oil or grease arm tracks or motor.
7. DON'T—Wedge anything against fan to hold motor shaft.
8. DON'T—Subject table top to variable humidity conditions (keep away from damp place.)
9. DON'T—Force cutting action. Stalling or partial stalling of motor can cause major damage to motor winding.
10. DON'T—Remove saw blade guard when boring.
11. DON'T—Remove arbor collars and nut when using rear shaft.
12. DON'T—Remove ground prong from plug. Never operate saw unless it is properly grounded.

MOTOR OVERLOAD PROTECTION

Your Saw Motor is equipped with a manual-reset type overload protector. If the protector "trips" and stops the motor, take the following steps:

1. Press the saw "STOP" switch button and allow the motor to cool.
2. After motor has cooled, the overload protector may be reset by firmly pressing the red reset button.* If you do *not* hear an audible "click", the motor must be allowed to cool further before attempting the reset.
3. As soon as the reset is accomplished, the saw may be started by pushing the "START" button.

*On single phase machines, the reset button is located in the motor connection box. Three phase machines have the reset button located in the cover of the magnetic starter.

OPERATING INSTRUCTIONS

CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with both the upper and lower guards in place.

ARM ROTATES 360° RIGHT OR LEFT FOR MITER CUTS

Release clamp (B) and lift latch (C) . . . then easily swing the arm (A) into any right or left angle. The calibrated miter scale (D) is at eye-level and shows precisely the miter angle you want. The "built-in" stops at 0 and 45° automatically locate these popular, common angles. You get lifetime mechanical accuracy without human error. Also, you never shift the lumber for miters . . . DeWalt puts the saw at the exact angle and you pull across for perfect miter cuts everytime!

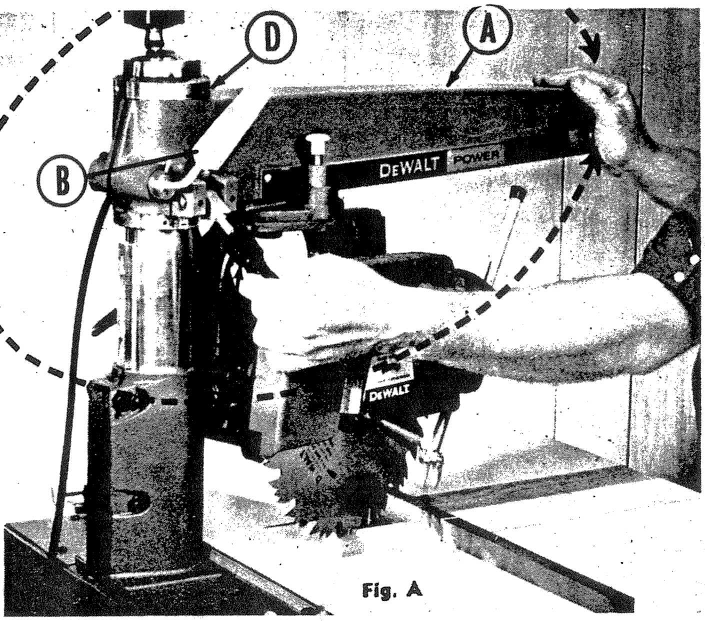


Fig. A

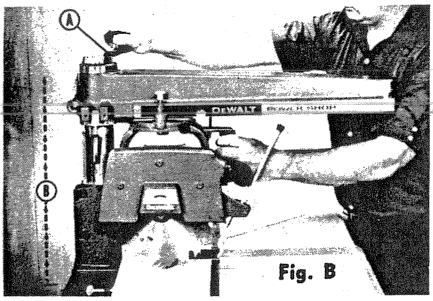


Fig. B

DeWalt measures for you . . . each full turn of the elevating knob (A) lifts or lowers (B) the arm exactly ⅛ inch . . . one half turn gives you 1/16 inch . . . actually pre-determines depth of cut. This is precision depth control at its finest.

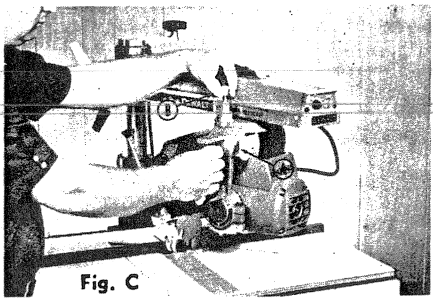


Fig. C

Saw Swivels 360° for Rip Cuts

It's easy. Release yoke clamp (A) and lift locating pin (B) . . . then swing yoke right or left. Automatically stops at all four 90° positions. Changes from cross cut to rip in less than five seconds!

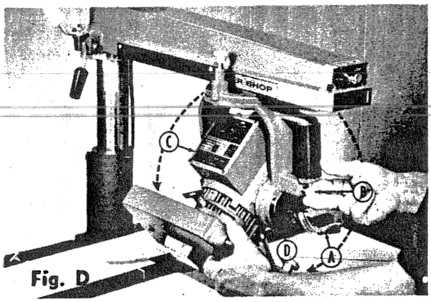
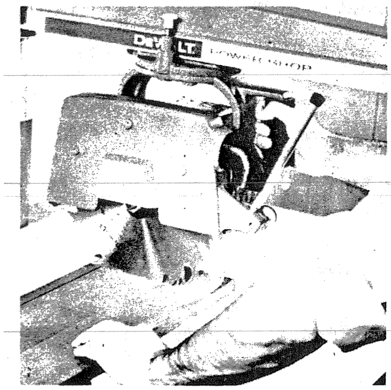


Fig. D

Saw Tilts for Bevel Cuts

First, raise arm about 18 turns. Pull out clamp (A) and locating pin (B). Tilt motor (C) for angle desired on bevel scale (D) . . . Relock (A). Automatically locates popular 0, 45° and 90° bevel positions. There's no limit on bevel cuts.

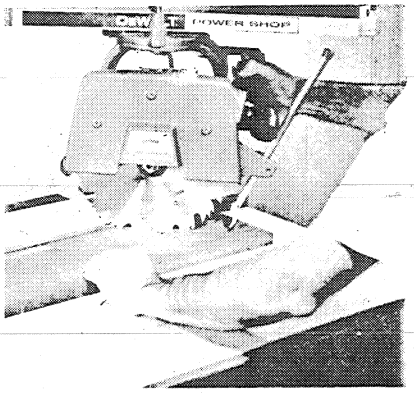


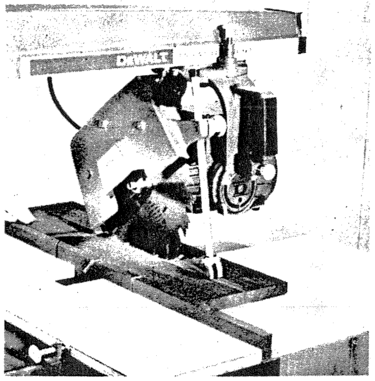
CROSS CUT

Read Fig. A. Set arm at right angle to the guide fence, at 0° on the miter scale. With the miter latch in column slot at 0° position, securely lock arm with arm clamp handle. Place material on work table, against guide fence, draw saw blade across for the cut. After completing cut, return saw blade behind guide fence.

MITER

Read Fig. A. Release arm clamp handle, lift miter latch. Swing arm to desired angle shown on miter scale. For 45° miter cuts, right or left, locate the miter latch in the proper 45° column slot. Securely lock arm with clamp handle. Intermediate angles: lock arm in position with arm clamp handle only. Cutting action same as cross cut.

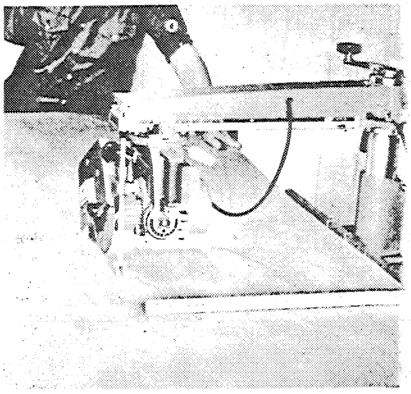




IN-RIP

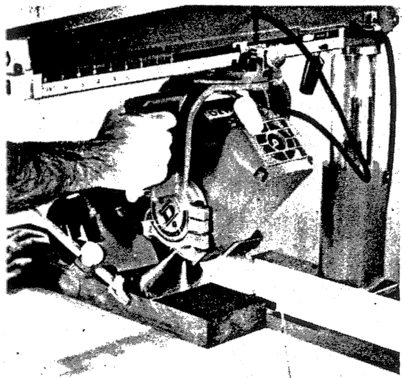
OUT-RIP

Read Fig. C. Start with arm locked in cross cut position. Pull out motor to end of arm. Release yoke clamp handle and lift locator pin. Revolve motor 90°, right or left, for out-rip or in-rip position. Re-engage locator pin in proper yoke slot and lock yoke clamp handle. Locate saw for desired width of rip, using rip scale, and lock saw carriage by tightening rip lock against side of arm. Adjust safety guard so that infeed end almost touches material. Lower kickback assembly so that fingers are approximately ⅛" lower than material. With material against guide strip, feed evenly into saw blade; give it a chance to cut. DO NOT FORCE. DO NOT FEED FROM KICKBACK SIDE OF GUARD. FOLLOW INSTRUCTIONS ON CAUTION TAG.



CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with both the upper and lower guards in place.

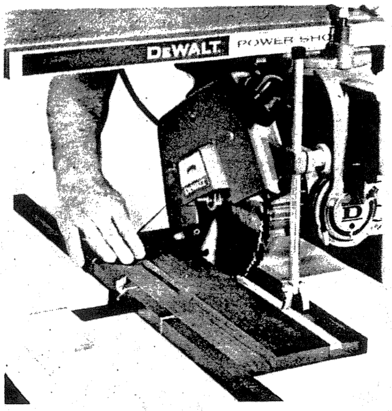


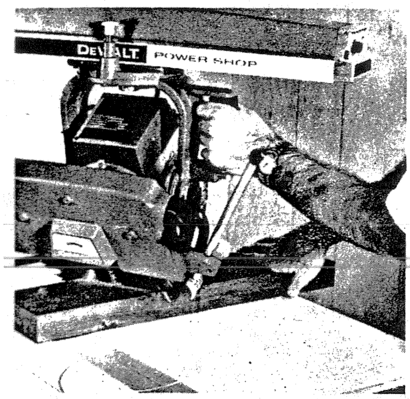
BEVEL CUT-OFF

Read Figs. B and D. Start in cross cut position. Elevate the saw by rotating crank on top of column. Pull out locating pin and release bevel clamp handle. Tilt motor in yoke to angle desired on bevel scale. Locating pin quickly locates 0°, 45° or 90° positions. If any other angle is desired, bevel clamp will hold motor rigidly in position.

PLOUGH

This operation is done with dado head in RIP position. Lower dado head for depth of cut desired, then lock carriage securely against machine arm. Be sure to adjust safety guard on in-feed side, lower kickback assembly to hold material. When starting cut, hold material firmly down on table and back against guide. Feed evenly.



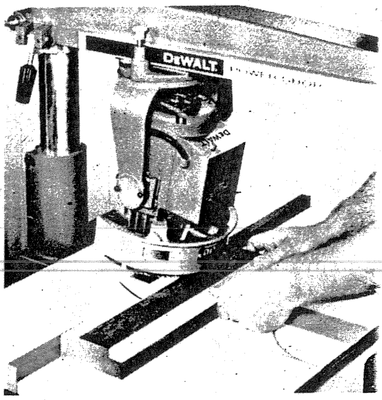


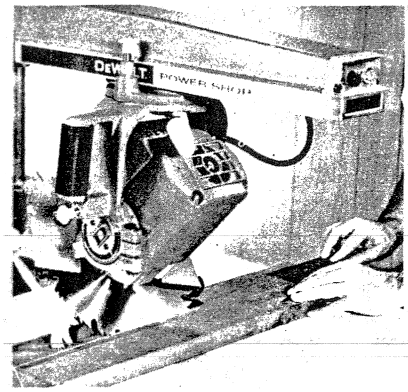
COMPOUND MITER

Read Figs. A, B and D. Start in bevel cut-off position. Lift miter latch, release arm clamp handle. Swing the arm into desired miter position, usually 45° or in-between angles, then relock arm clamp handle. Pull saw across for miter cuts. The compound miter cut is simply a combination bevel and miter cut.

RABBET

Re-read Figs. B, C and D. First, elevate arm until motor locates in 90° vertical position. Place shaper guard over dado head. Swivel motor into rip position so that guard sets above material. Use column crank, also rip lock ro set dado for cut desired. Feed material evenly, firmly against guide. Tilt motor for bevel rabbet cuts.



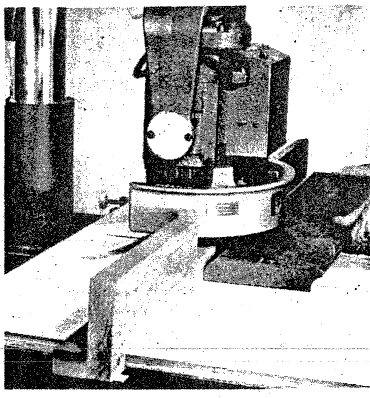


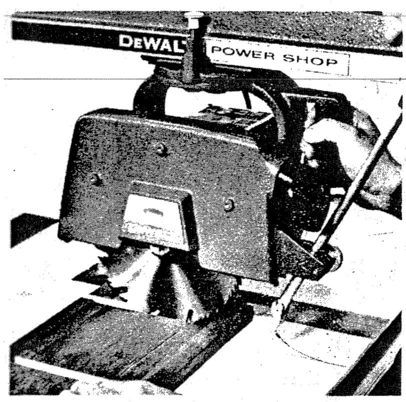
BEVEL RIP

Read Figs. B, C and D. Start in bevel cross-cut position as described above. Now, place the saw into rip position and (using rip lock) lock securely against arm at desired point. Be sure to lower guard at in-feed position, adjust the kickback device and then use a wood "pusher" stick to further prevent kickback.

SHAPE

Place shaper cutter on motor arbor; cover with shaper guard. Now, set up the machine in the same position as RABBET. Set shaper cutter for the profile desired. Lock saw carriage securely, adjust shaper guard so that it just clears the material. Feed the material firmly and evenly into the shaper cutters. Maintain positive pressure.



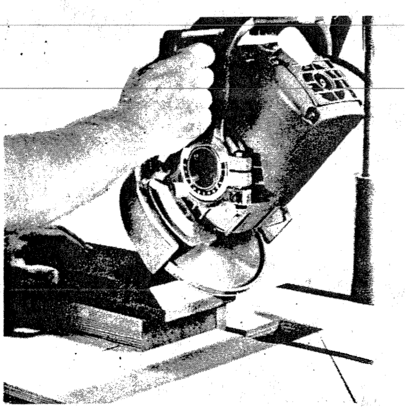


DADO

Replace saw blade with dado head. Use for across or angle dado cuts same as saw blade. When determining depth of cut, simply lower dado until it just touches top of material. Then lower dado head as desired. Each full turn equals ⅛", one-half turn 1/16", etc. Wide dado cuts can be made by making successive passes across the material, cutting in either direction.

DISC SANDER

Place disc sander directly on motor spindle. Locate disc sander wherever desired on machine. For bevel and surface sanding only, place shaper guard over the disc sander. For finish work on angles, use work support fixture. For surface sanding tilt the disc sander into vertical position. Feed the material evenly for best results. Use finer paper for final finish.



CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with both the upper and lower guards in place.

CUTTING KERF MARKS

After all your adjustments are made you should now cut into the table top the most common kerf marks. This will allow you to move the saw into different positions without changing the elevation. To do so proceed as follows:

(a) Locate and lock the arm 90° to the fence. Locate the blade 90° to the table.

(b) Draw the saw out to about the middle of the track and lower the blade until it just grazes the ply top.

(c) Turn the saw on and push the roller head all the way back. This will cut the fence and lightly score the ply top.

(d) Lower the arm (saw still running) ¼ turn. Pull the saw forward to the end of the arm with your *left hand*. This will cut a groove in the table top 1/32" deep. **Tighten Rip Lock.** (Refer to figure 1)

(e) With the saw still running, release yoke clamp handle and locator pin. You can now rotate the yoke in a clockwise direction. Continue rotating the yoke until the spring mounted yoke locator pin falls into the next hole. You have now cut in the table top a ¼ turn groove known as the swing line. The saw is now in the "in-rip" position. (Refer to figure 2) **Loosen Rip Lock.**

(f) Once the ¼ turn out is complete lock the yoke lock with your right hand and with the blade still revolving push the yoke back on the track until the blade reaches the fence. This will cut the rip trough in the center of the table. **Stop Motor.** (Refer to fig. 3)

(g) Return saw to position shown in figure 1. Lock Rip Lock and start motor. Release yoke clamp handle and locator pin and rotate yoke counterclockwise to the outrip position. This cuts the swing line for outripping. **Loosen rip lock.**

(h) Lock the yoke lock (clamp handle), and with your right hand and blade still revolving, push the saw back until the new trough matches the trough cut in (f). **Stop Motor.**

(j) Return saw to position shown in figure 1 and move to the rear position behind the fence.

(k) Lock Rip Lock and start motor. With motor running release the arm clamp handle and miter latch and move arm to the 45° right hand miter position. This will cut a trough for mitering. (Optional step) Repeat above for 45° left hand miter. **Stop Motor.**

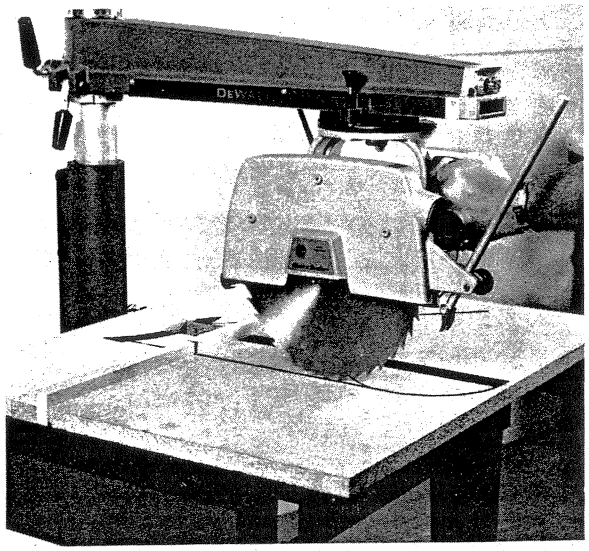


FIGURE 1

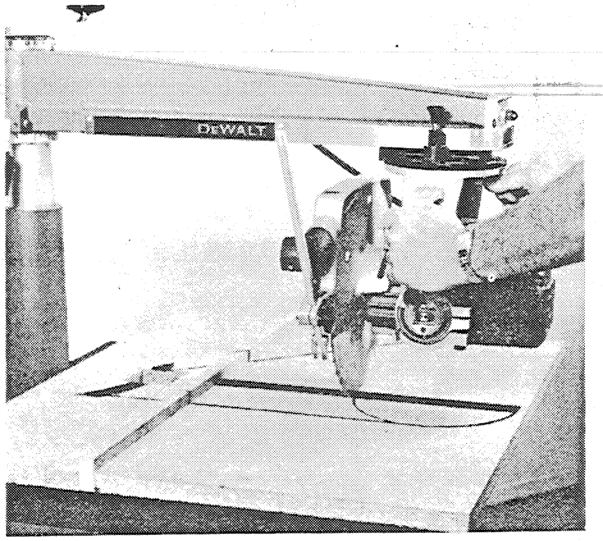


FIGURE 2

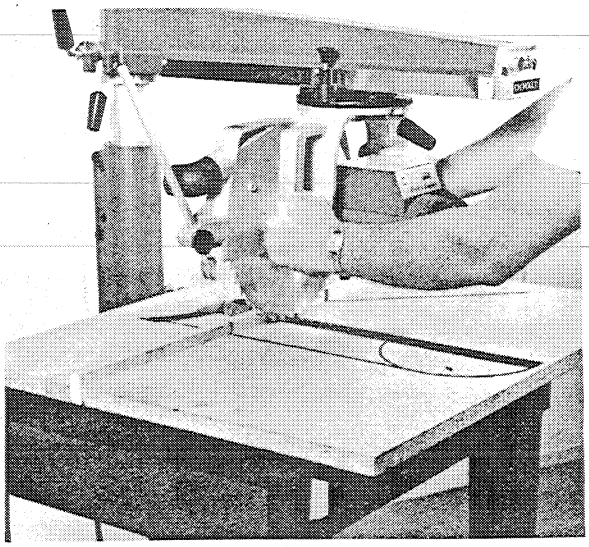


FIGURE 3

ACCESSORIES

Recommended Accessories for your Radial Arm Saw are illustrated and listed in the Black & Decker Dewalt Catalog and are stöcked by authorized Distributors. These accessories include SAW BLADES (in many different types), DISC SANDER, DRUM SANDER, JOINTER CUTTER HEAD, SHAPER HEADS, SABRE SAW, DADO CUTTERS, GUARDS, PLANNER HEAD, FENCE STOP, LEG STAND, SAFETY RETURN REEL, and 64-page BOOK, "How To Get The Most Out of A Radial Arm Saw".

CAUTION: The use of an accessory other than those recommended might be hazardous.

TROUBLE SHOOTING CHART—MOTOR

TROUBLE	PROBABLE CAUSE	REMEDY
Motor will not run.	1. Protector open; circuit broken. 2. Low voltage 3. Bad capacitor or starting relay. *	1. Reset protector by pushing on red button (indicated by audible click). 2. Check power line for proper voltage. 3. Replace capacitor or starting relay.
Motor will not run and fuses "BLOW."	1. Short circuit in line cord or plug. 2. Short circuit in junction box, or loose connections.	1. Inspect line cord and plug for damaged insulation and shorted wires 2. Inspect all teminals in motor junction box for loose or shorted connections.
Motor fails to develop full power. (Power output of motor decreases rapidly with decrease in voltage at motor terminals.)	1. Power line overloaded with lights, appliances and other motors. 2. Undersize wires or circuit too long. 3. General overloading of power company's facilities. (In many sections of the country, demand for electrical power exceeds the capacity of existing generating and distribution systems.) 4. Incorrect fuses in power line.	1. Reduce line load. 2. Increase wire sizes, or reduce length of wiring. 3. Request a voltage check from the power company. 4. Install correct fuses.
Motor starts slowly or fails to come up to full speed.	1. Low Voltage — will not trip starting relay.* 2. Starting relay not operating.* 3. Bad capacitor.*	1. Correct low voltage condition. 2. Replace relay. 3. Replace capacitor.
Motor overheats.	1. Motor overloaded. 2. Improper cooling. (Air circulation restricted through motor due to sawdust, etc.)	1. Correct overload condition. 2. Clean out sawdust to provide normal air circulation through motor.
Starting relay in motor will not operate.	1. Burned relay contacts (due to extended hold-in periods caused by low line voltage, etc.) * 2. Open relay coil. * 3. Loose or broken connections in motor terminal box.	1. Replace relay and check line voltage. 2. Replace relay. 3. Check and repair wiring.
Motor stalls (resulting in blown fuses or tripped circuit breakers).	1. Starting relay not operating. * 2. Voltage too low to permit motor to reach operating speed. 3. Fuses or circuit breakers do not have sufficient capacity.	1. Replace relay. 2. Correct the low line voltage condition. 3. Replace fuses or circuit breakers with proper capacity units.
Frequent opening of fuses or circuit breakers.	1. Motor overloaded. 2. Fuses or circuit breakers do not have sufficient capacity. 3. Starting relay not operating (motor does not reach normal speed.) *	1. Reduce motor load. 2. Replace fuses or circuit breakers. 3. Replace relay.

* Single phase only

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ALABAMA: Birmingham 35209, 10 Green Springs Highway	205	879-0538
ARIZONA: Phoenix 85004, 537 E. McDowell Rd.	602	AL 8-1332
ARKANSAS: Little Rock, 72201, 519 West Seventh Street	501	FR 2-3040
CALIFORNIA: Anaheim 92802, 1235 So. Euclid Ave.	714	772-4050
Fresno 93703, 2518 North Blackstone Avenue	209	224-2152
Los Angeles 90007, 2432 S. Broadway	213	RI 9-0371
Los Angeles 90007, 2510 South Broadway (Sales only)	213	749-7638
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Riverside 92506, 4010 Merrill Ave.	714	787-9700
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Flint 48504, G-4083 Clio Road	313	789-6191
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MISSOURI: Kansas City 64108, 2705 McGee Trafficway	816	HA 1-1493
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NEW YORK: Buffalo 14209, 881 W. Delavan Ave.	716	TT 4-6220
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Home Products Division	516	829-9504
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New York 11590, 1059 Old Country Road (Westbury, L.I.)	516	997-6140
New York 10462, 1894 E. Tremont Avenue (Bronx)	212	SY 2-2700
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Memphis 38116, 986 East Brooks Rd.	901	332-3444
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Dallas 75207, 1808 N. Industrial Blvd. (Service only)	214	RI 1-6401
Dallas 75207, 1810 N. Industrial Blvd. (Sales only)	214	747-6345
Fort Worth 76103, 1801 Bomar Street	817	336-0175
Houston 77003, 105 Sampson Street	713	228-7521
San Antonio 78210, 1111 South Presa Street	512	LE 4-4611
UTAH: Salt Lake City 84115, 1541 S. Third West Street	801	486-7056
VIRGINIA: Falls Church 22046, 129 Annandale Road	703	533-1147
Norfolk 23513, 7631 Sewells Point Road	804	480-3333
Richmond 23222, 1424 Chamberlayne Ave.	804	649-9245
WASHINGTON: Seattle 98109, 701 Third Ave., N.	206	AT 2-6432
Spokane 99207, 3550 North Market Street	509	HU 9-9164
WEST VIRGINIA: Charleston 25312, 1638 Sixth Ave.	304	343-0289
WISCONSIN: Milwaukee 53213, 6301 Blue Mound Road	414	GR 6-7800

BLACK & DECKER MFG. CO., Limited, Canada

BROCKVILLE, ONTARIO	Perth Street
CALGARY, ALBERTA	1003 11th Avenue, S. W.
DON MILLS (Toronto)	2 Valleybrook Drive
EDMONTON, ALBERTA	11440 Ave.—142 Street
HALIFAX, NOVA SCOTIA	803 McLean Street
HAMILTON, ONTARIO	180 Parkdale Ave., N.
LONDON, ONTARIO	631 Commissioners Rd., East
MONTREAL 10, P. Q.	7865 St. Lawrence Blvd.
OTTAWA, ONTARIO	418 Laurier Avenue, West
QUEBEC CITY, P. Q.	330 St. Roch Street
REGINA, SASKATCHEWAN	1076 Albert Street
SASKATOON, SASK.	Diamond Ind. Center, Quebec & 33rd St.
VANCOUVER 10, B. C.	24 West 2nd Ave.
WINNIPEG 10, MANITOBA	934 St. James St.

AUTHORIZED SERVICE STATIONS

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  Mobile, Industrial Equipment Repairs
  Montgomery, Mid-State Electric Motor Service
  Sheffield, Alabama Electric Motor Service
ALASKA: Anchorage, Aero Services Company
  Fairbanks, Aero Services Company
ARIZONA: Tucson, Electric Motor Company
ARKANSAS: Ft. Smith, Branum & Prock
CALIFORNIA: Stockton, Stockton Armature Works
COLORADO: Pueblo, Engine Center, Incorporated
CONNECTICUT: New Haven, New Haven Electric Machine Co.
DELAWARE: Camden, American Appliance & Tool Repair
FLORIDA: Bradenton, Chezem's Small Appliance Tool Repair
  Ft. Lauderdale, State Repair Center, Incorporated
  Merritt Island, U-Rent-It, Incorporated
  Pensacola, Electric Motor Service, Incorporated
GEORGIA: Columbus, Smith-Gray Electric Co., Inc.
  Savannah, Industrial Power & Air Tool Repair, Inc.
IDAHO: Boise, Boise Ignition Company
  Idaho Falls, Christensen Electric Motors
  Lewiston, Wade's Saw & Tool Service
  Salmon, Bennett's Repair
ILLINOIS: Bradley, Arthur Motor Works
  East Peoria, Couch & Heyle
  Joliet, R & A Electric Service, Inc.
  Springfield, James Machinery
INDIANA: Elkhart, Dunlap Electric Tool Repair
  Ft. Wayne, Power Tool & Service

KENTUCKY: Bowling Green, Covington Electric Service
  Lexington, Lexington Industrial Service Co., Inc.
  Owensboro, Owensboro Armature Works, Inc.
  Paducah, Sinclair Electric Service
LOUISIANA: Baton Rouge, Baton Rouge Electric Motor Service
  Harvey, Harvey Specialty & Supply, Inc.
  Shreveport, Carl Pons Electric Motor Service, Inc.
MAINE: Bangor, N. H. Bragg & Sons
  Westbrook, Stultz Electric Works
MICHIGAN: Petoskey, Petoskey Electric Motor Service
MINNESOTA: Duluth, Gunderson-Carlson Equipment
MISSISSIPPI: Jackson, Flannigan Electric Co., Inc.
MISSOURI: Springfield, Electric Motor Service & Supply
MONTANA: Billings, Ted's Electric Service
  Great Falls, Gomer's Diesel & Electric
  Missoula, City Electric
NEBRASKA: North Platte, Knapp Electric
NEVADA: Las Vegas, Stewart's Electric Motor, Inc.
  Reno, Landa Electric Company
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OREGON: Eugene, Keith's Electric Motor Service
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  Erie, Armor Electric
  Mechanicsburg, Power Tools Service
  Reading, Reading Electric Motor Service, Inc.
  Wilkes-Barre, Schwab Electric
SOUTH CAROLINA: Charleston, Charleston Supply Company
  Charleston, Delta Industrial Electric Company, Inc.
  Columbia, Mann Electric Repair Company
SOUTH DAKOTA: Rapid City, Industrial Electric & Supply Co.
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  Brownsville, Imperial Electric Motor Service
  Corpus Christi, Smith Shields Electric Works
  El Paso, B & M Machinery Company
  Lubbock, Anderson Young Electric
  Odessa, Electric Service & Supply Company
  San Angelo, Western Electric Motor Company
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WEST VIRGINIA: Wheeling, Warwood Armature Repair Co.
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IMPORTANT! **IMPORTANT!**

To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment should be performed by BLACK & DECKER Service Centers or other qualified service organizations, always using BLACK & DECKER replacement parts.

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